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ABSTRACT

This bulletin presents an overview of strategies that practitioners identify as methods of increasing young women's access to and success in school-to-work programs in nontraditional occupations. These strategies are discussed: outreach to female students; career information and advising; training for teachers and counselors; math and science education; links with out-of-school programs; success skills; women mentors; parent involvement; and preparing employers and unions. The following institutional strategies are described: (1) including women in nontraditional occupations on advisory councils and hiring women instructors in nontraditional educational areas; (2) including workshops on nontraditional employment in training institutes and offering grant incentives for encouraging nontraditional careers in requests for proposals for local school-to-work initiatives; (3) purchasing textbooks, videotapes, and posters portraying women in nontraditional occupations; and (4) collecting data that link occupations and gender and designating nontraditional occupations for program development. An example of effective practice is provided: Manufacturing Technology Partnership in Flint, Michigan, which provides young women the opportunity to explore high-skill, high-wage careers in the manufacturing sector. A list of 2 publications and 14 organizations for additional information on programs and strategies includes brief summaries describing the organizations' focus and activities. (YLB)

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SCHOOL TO WORK OPPORTUNITIES

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★RESOURCE BULLETIN

APRIL 1996

Non-Traditional School-to-Work Opportunities for Young Women

Young women making the transition from school to adult life often pursue significantly different paths than do young men, differences that have economic as well as career implications. About half of young women aged 16 to 24 work in jobs that pay an average wage of $338 per week, while sixty percent of young men work in jobs that pay an average wage of $448 per week. This $110 per week wage differential is linked to the different occupations in which women and men are employed. Young women tend to be employed in a narrow range of occupations, in the lower-paying sales and administrative support jobs, while young men are more likely to work in higher-paying machine operator, craft work, and repair jobs. For example, young women aged 16 to 34 represent only one percent of automobile mechanics, four percent of airline pilots and navigators, and ten percent of electronic technicians, compared with young men in the same age category (Women's Bureau, U.S. Department of Labor).

School-to-work initiatives are attempting to provide young women with access to the same opportunities as young men, particularly in "non-traditional occupations" where women represent less than 25 percent of the individuals employed. For example, skilled trades, technology, and science occupations are promising non-traditional fields of work for young women. School-to-work can help young women develop the skills required for these occupations and show them that these careers are viable alternatives.

This bulletin presents an overview of strategies that practitioners point to as methods of increasing young women's access to and success in school-to-work programs in non-traditional occupations. It then provides a selected listing of organizations and other resources for additional information on programs and strategies.

Outreach to Female Students. Experience has shown that women are interested in non-traditional occupations when they are actively recruited. Recruitment techniques include presentations by female role models and current students in non-traditional occupations and classes; recruitment flyers picturing women, with their testimonials; a hands-on career laboratory targeted towards women; and information about salaries and career ladders. Effective outreach strategies send the message that women can do non-traditional jobs, that they will be welcome in school- and work-based learning settings, and that they will have female role models.

Career Information and Advising. Recruitment of young women can be supported by career information showing women in a wide variety of non-traditional occupations. Most young women do not

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picture themselves working in non-traditional fields, and need consistent exposure to materials and career exploration activities (such as job shadowing or talking with a female role model) to stimulate their interest. For example, many young women may not consider the military as an option despite the many opportunities that have opened up for women in the armed services. Career interest inventories, administered *after* career exploration, can be useful to help women learn to picture themselves in non-traditional occupations. Career aptitude and assessment tools should be used with great caution, since many have the effect of screening young women out of non-traditional occupations. Counselors can identify other interests and skills, in addition to prior coursework and job experience, as a base for career paths. For example, young women interested in computer games may possess good hand-eye coordination, or be adept at computer repair.

Training for Teachers and Counselors. Young women and men sometimes fall into classroom learning patterns which impede the education of young women. Training can offer teachers techniques--such as structured groups to prevent young women from serving only as the recorder in lab experiments--which increase the participation and achievement of young women, particularly in math and science. Training on issues such as how to present non-traditional career options to women and how to help students deal with sexual harassment and discrimination is important for both counselors and teachers.

Math and Science Education. Many high technology and manufacturing industry occupations are traditionally dominated by men. These occupations require competency in higher-order math and science. Research shows, however, that the participation and achievement of young women in math and science courses tend to decline as their grade levels increase. Contextual and experiential learning from early grade school improves math and science attainment for both young women and men, and keeps young women in the math and science pipeline. Young women also benefit from the presence of women role models in math and science and other adults who have high expectations for their achievement in these fields.

Links with Out-of-School Programs. Schools can form partnerships with the many out-of-school programs promoting math and science education and careers for young women. Sponsors, most of which charge no fee or tuition, include girl's clubs, universities, museums, and professional associations of women in math and science. One example is Operation SMART (Science, Math, and Relevant Technology), started by Girls, Incorporated, to encourage young women to persist in math and science in school and stay on the track to rewarding careers.

Success Skills. Young women are most likely to succeed when prepared for challenges they may encounter when they pursue non-traditional career tracks. School-to-work programs can provide workshops to discuss these challenges. An added benefit of such workshops is that they also serve to expand men's awareness about the problems women face in the workplace.

Women Mentors. Young women in non-traditional career tracks will greatly benefit from women mentors who can advise them on such issues as establishing credibility on the worksite. Women mentors can be identified in non-traditional occupations or through national women's professional associations such as the Association for Women in Science and the National Network of Minority Women in Science, as well as local tradeswomen's organizations.

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Parent Involvement. Parents/guardians are a critical partner in any school-to-work initiative, but their support is particularly important for young women focusing on non-traditional careers. Parents can show businesses that support for such programs extends beyond the school and into the home and community. Program administrators can offer workshops or brochures to help parents/guardians learn strategies to support their daughters' achievements in math and science and their pursuit of non-traditional careers. Topics such as enrolling daughters in out-of-school math and science programs and encouraging their use of computers could be covered. Not only can parents/guardians be shown the benefits of school-to-work, they can learn and come to understand how their daughters can succeed non-traditional career fields. Through School-to-Work, parents/guardians can meet women in non-traditional occupations and others who support these efforts.

Preparing Employers and Unions. School-to-work programs that educate young women for non-traditional careers will want to work with employers and unions to support young women. Steps to prepare employers and unions may include: involving businesses in assessing students for work-based learning assignments; and educating employers and employees about isolation, preventing sexual harassment, and the need to prepare the workplace for women (e.g., by providing appropriate restroom and locker room facilities).

Institutional Strategies. Programs can also focus on broader efforts aimed at the institutional and administrative aspects of school-to-work. Such strategies can incorporate:

- including women in non-traditional occupations (and their representatives) on advisory councils, and hiring women instructors in non-traditional educational areas;
- including workshops on non-traditional employment in training institutes, offering grant incentives for encouraging non-traditional careers in requests for proposals for local school-to-work and other initiatives, and rewarding excellence in equity;
- purchasing textbooks, videotapes, and posters portraying women in non-traditional occupations; and
- collecting data that link occupations and gender, designating non-traditional occupations for program development, and developing performance measures for school-to-work programs in non-traditional occupations.

Effective Practice

Young women in the **Manufacturing Technology Partnership (MTP)** in Flint, Michigan, have the opportunity to explore a variety of high-skill, high-wage careers in the manufacturing sector. Established in 1992 as a collaborative effort between local schools, General Motors, and the United Auto Workers, the MTP has expanded to include over 20 other manufacturers in the community that provide work-based opportunities for students. The MTP is open to all high school juniors and seniors across 21 school districts, but specifically recruits and supports young women, who make up about 40 percent of the students enrolled in MTP.

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MTP combines rigorous academic coursework with extensive work-based learning. Students attend their regular schools in the morning and the central MTP center in the afternoon for training designed in part by employers. Employers are also involved in selecting which MTP participants they will employ. Work experiences range across the manufacturing sector (i.e., engineering, design, technical positions, management, and computer aided design). To convince employers to participate, MTP emphasizes the opportunity to develop a future workforce, have a "say" in education and training, develop customized training to meet employer needs, utilize the support of school personnel, promote economic development, meet community obligations, and work with professional associations to communicate positive program outcomes. To support young women, MTP pairs each female student with an adult female mentor from the manufacturing sector. These mentors, trained by MTP, serve as role models to show that women can succeed in non-traditional careers. Mentors are resources with whom the young women can discuss problems, and are also partners who help them celebrate success.

MTP also provides continual training to support the other partners in this program, including counselors, teachers, automotive employees, and students. Counselors and teachers receive information on how to help young women succeed in non-traditional occupations. Employees participate in workshops to help them recognize gender issues and discuss ways of adapting to the inclusion of women in their workplaces. Young women are equipped with strategies to help them cope with any obstacles they might come up against, such as sexual harassment or isolation. In addition, parents/guardians are continually kept informed of any progress or problems their children are experiencing during their participation in the MTP.

For further information, contact the Manufacturing Technology Partnership, G-5081 Torrey Road, Flint, MI 48507 ★ 810-760-1444.

FOR MORE INFORMATION ABOUT THIS TOPIC, CONSULT THE FOLLOWING PUBLICATIONS AND ORGANIZATIONS:

Publications

Women's Bureau, U.S. Department of Labor. *Directory of Non-Traditional Training and Employment Programs Serving Women*. Washington, DC: U.S. Government Printing Office, 1991.

Women, Minorities, and Persons with Disabilities in Science and Engineering. Washington, DC: National Science Foundation, November 1994.

Organizations

The American Association of University Women (AAUW) advocates the educational equity of women and girls, and conducts significant research on girls and education. AAUW is the nation's oldest and one of the largest sources of noninstitutional funding of graduate education for women. Recent publications include *Hostile Hallways: The AAUW Survey on Sexual Harassment in America's Schools; The AAUW Report: How Schools Shortchange Girls;* and *Shortchanging Girls, Shortchanging America*. 1111 16th Street, NW, Washington, DC 20010 ★ 202-785-7700 ★ http://www.aauw.org.

The Association for Women in Science (AWIS) is a nonprofit organization committed to the achievement of equity and full participation of women in all areas of science and technology. AWIS supports women in their career advancement through mentoring activities, leadership training for women, coalition building, and the publication of *AWIS Magazine*, a source of information for women scientists and employers. AWIS also publishes comprehensive reports of its conferences and outreach programs. 1522 K Street, NW, Suite 820, Washington, DC 20005 ★ 202-408-0742.

Girls Count is a nonprofit organization expanding opportunities for all girls--in education and in the workforce of the future. Through innovative technical assistance and training, public education, and public policy initiatives, Girls Count provides educators, parents, business leaders, policymakers, and other adults in girls' lives with the tools to change expectations and actions that limit girls' views of themselves and their futures. 225 East 16th Avenue, Suite 475, Denver, CO 80203 ★ 303-832-6600 ★ GirlsCount@aol.com.

Girls, Incorporated, the former Girls Clubs of America, is a nonprofit organization and advocate for girls in the United States, specializing in program development, direct service, action research, and advocacy designed to help make girls strong, smart, and bold in an inequitable world. Preparing girls for economic independence and promoting their equal employment opportunity in non-traditional jobs are priorities which are addressed in several core programs, including the Career Action Program. 30 33rd Street, New York, NY 10016 ★ 212-689-3700 ★ Fax 212-683-1253 ★ HN3578@handsnet.org.

The Institute for Women in Trades, Technology & Science is a nonprofit organization dedicated to the integration of women into trades and jobs in non-traditional fields for women. The Institute brings a national knowledge base on institutional strategies and program elements to ensure that women are prepared for non-traditional employment and have the ability to integrate that knowledge base with the development of school-to-work systems. 6421 4th Avenue, Takoma Park, MD 20912-4708 ★ 301-270-8014.

Kansas Careers offers extensive career and staff development resources and services for young women. In particular, Kansas Careers supplies information on the **Kansas Mentor Project**, which has provided young women with mentors and role models from non-traditional occupations. Kansas Careers also operates, on the World Wide Web, the **Internet Assessment for Women**, which serves as a comprehensive resource for non-traditional career exploration. Kansas State University, 2323 Anderson Avenue, Suite 248, Manhattan, KS 66502-2912 ★ 913-532-6540 ★ dangle@ksu.ksu.edu ★ http://www.ksu.edu/~dangle/.

The National Network of Minority Women in Science (MWIS) is a communication and support system for minority women in science and engineering as well as others who share an interest in promoting the participation of these underrepresented groups in science and engineering professions. The mission of MWIS is to provide minority female students with access to career information and educational opportunities, and to promote the professional advancement of minority women scientists and engineers. American Association for the Advancement of Science, 1333 H Street, NW, Washington, DC 20005 ★ 202-326-6670.

The National Women's Law Center works to broaden job opportunities and end sexual harassment for women. A priority of the Center is to promote policies that assist women as family members, particularly women who are the primary financial support for their families. The Center has focused much attention on the development of effective education policies for women, including non-traditional school-to-work opportunities for young women. 11 Dupont Circle, NW, Washington, DC ★ 202-588-5180.

The Pre-Vocational Training Program at the University of Iowa introduces women, aged 16 and older, to skilled trades and technical occupations. Working with an integrated community-based network of educators, service providers, unions, and employers, the program prepares participants for employment or educational

opportunities in non-traditional occupations. The Pre-Vocational Training Program also provides technical assistance to Iowa Community Colleges in increasing female student access to technical and trade educational programs, and to communities that would like to adapt and replicate the Pre-Vocational Training Program. 107 Seashore Hall Center, Iowa City, IA 52242 ★ 319-335-0560.

The Northwest Center for Equity and Diversity is a comprehensive regional resource center focused on promoting gender equity and cultural diversity in education, business, and the community. The Northwest Center provides training and resources which foster the development of inclusive, equitable, and multicultural classrooms and workplaces that are relevant and receptive to the challenges of the workplace. Edmonds Community College, 20000 68th Avenue West, Lynnwood, WA 98036 ★ 206-640-1085.

Wider Opportunities for Women (WOW) is a non-profit organization that promotes economic independence and equality of opportunity for women and girls. Through its technical assistance, skills training models, functional context approach to education, and expertise on non-traditional jobs for women, WOW works to build the bridges between education, employment, and economic development. WOW has been actively involved in assisting school-to-work programs across the country provide young women the opportunity to enter non-traditional occupations. 815 15th Street, NW, Suite 916, Washington, DC 20005 ★ 202-638-3143.

The Women's Educational Equity Act Equity Resource Center (WEEA) is a publishing center for information on issues relating to gender equity in education and training programs. Each month, WEEA publishes the *WEEA Digest*, which discusses educational theory and research from a field-based perspective. Many of WEEA's publications focus on school-to-work opportunities for young women in non-traditional occupations. Education Development Center, 55 Chapel Street, Newton, MA 02158-1060 ★ 800-225-3088 ★ weeapub@edc.org.

Women Employed is a membership organization dedicated to expanding opportunities for women through career development services, education, and advocacy. Women Employed assists community colleges and nonprofit training institutions in developing pre-vocational training for women and girls. Its Career Links program, a group mentoring program linking teen girls with working women, focuses on life planning, career exploration, and job readiness activities. 22 West Monroe, Suite 1400, Chicago, IL 60603 ★ 312-782-3902.

Women Work! The National Network for Women's Employment is dedicated to empowering women and assisting them to achieve economic self-sufficiency through job readiness, education, training, and employment. In addition to individuals throughout the country, Network members include more than 1,300 education, training, and employment programs. The Network collects data, disseminates information, provides training and technical assistance, and acts as a communication link to programs, agencies, and educational institutions. 1625 K Street, NW, Suite 300, Washington, DC 20006 ★ 202-467-6346.

For more information about STW Resource Bulletins, please contact:
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